

Copy of Manual
Catalogue

ATF #1

| NO. | SPECIES | AGE | SEX | MEASUREMENTS TSS gm. | DATE | COLLECTOR | LOCALITY | REMARKS |
|-----|------------------------|------|-----|-------------------------|--------------|------------------|---------------------------------------|-------------------------------|
| M-1 | Harpostus | Ad. | ♂ | 592-260-63-26 | 3 Feb. 1963 | DOR, Wirtz | AWAII, OAHU, HALEIWA 3 mi N on Rt. 83 | te. 7x5 mm. |
| 2 | Monachus schauinslandi | Ad. | | skull only | 13 Feb. 1963 | Sibley | AWAII, LAKEAN ISLAND, NE shore | |
| 3 | Monachus schauinslandi | Juv. | ♂ | skull + baculum | 14 Feb. 1963 | Sibley, Wirtz | AWAII, LISIANSKI, SE shore | |
| 4 | Mus musculus | | | | | | AWAII, MIDWAY ISLANDS, SAND ISLAND | (Field Series 38) to. 1x1 mm. |
| 5 | Mus musculus | | | | | | " " " | (Field Series 41) to. 1x1 mm. |
| 6 | Mus musculus | | | | | | " " " | (Field Series 42) to. 1x1 mm. |
| 7 | Monachus schauinslandi | Juv. | ♂ | | 20 Feb. 1963 | McFarlane, Wirtz | AWAII, KURE ISLAND, N shore | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | | | | | | |
| 22 | | | | | | | | |
| 23 | | | | | | | | |
| 24 | | | | | | | | |
| 25 | | | | | | | | |
| 26 | | | | | | | | |
| 27 | | | | | | | | |
| 28 | | | | | | | | |
| 29 | | | | | | | | |

| NO. | SPECIES | AGE | SEX | MEASUREMENTS 780 gm. | DATE | COLLECTOR | LOCALITY | REMARKS |
|-----|------------------------|------|-----|-------------------------|--------------|------------------|---|-------------------------------|
| M-1 | Herpestes | Ad. | ♂ | 592-260-63-26 | 3 Feb. 1963 | DOR, Wirtz | HAWAII, OAHU, HALEPIWA 3 mi N on Rt. 83 | te. 7x5 mm. |
| 2 | Monachus schauinslandi | Ad. | | skull only | 13 Feb. 1963 | Sibley | HAWAII, LAYSAN ISLAND, NE shore | |
| 3 | Monachus schauinslandi | Juv. | ♂ | skull + baculum | 14 Feb. 1963 | Sibley, Wirtz | HAWAII, LISIANSKI, SE shore | |
| 4 | Mus musculus | | | | | | HAWAII, MIDWAY ISLANDS, SAND ISLAND | (Field Series 38) to. 1x1 mm. |
| 5 | Mus musculus | | | | | | " " " | (Field Series 41) to. 1x1 mm. |
| 6 | Mus musculus | | | | | | " " " | (Field Series 42) to. 1x1 mm. |
| 7 | Monachus schauinslandi | Juv. | ♂ | | 26 Feb. 1963 | McFarlane, Wirtz | HAWAII, KURE ISLAND, N shore | |
| 8 | | | | | | | | |
| 9 | | | | | | | | |
| 10 | | | | | | | | |
| 11 | | | | | | | | |
| 12 | | | | | | | | |
| 13 | | | | | | | | |
| 14 | | | | | | | | |
| 15 | | | | | | | | |
| 16 | | | | | | | | |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 21 | | | | | | | | |
| 22 | | | | | | | | |
| 23 | | | | | | | | |
| 24 | | | | | | | | |
| 25 | | | | | | | | |
| 26 | | | | | | | | |
| 27 | | | | | | | | |
| 28 | | | | | | | | |
| 29 | | | | | | | | |

Numbers of Mammals Collected on Southern Island Trips as Indicated by Trip Reports

SIC 10-20
compiled by R. B. Clapp -- 28 July 1969

SIC 20 - October 1968

McKean Island Report -- No mammals occur

SIC 19 - June-July 1968

Sydney Island Report - July 1968 (Clapp) -- 1 cat collected

Howland Island Report - July 1968 (Clapp) -- no mammals collected

McKean Island Report - July 1968 (Clapp) -- no mammals occur

Enderbury Island Report -- July 1968 (Clapp) -- no mammals collected

Baker Island Report -- July 1968 (Hackman and Clapp) -- no mammals collected

Starbuck Island Report -- June 1968 (Clapp and Hackman) -- no mammals collected

Jarvis Island Report -- June 1968 (Clapp) -- no mammals collected

Malden Island Report -- June 1968 (Clapp) -- 4 mice collected and preserved in 70% alcohol

SIC 18 - March-April 1967

Starbuck Island Report -- April 1967 (Smith) -- 1 cat collected and frozen, 1 Polynesian rat collected with shotgun, and, although badly mauled, frozen for ectoparasite study.

Malden Island Report -- Mar.-Apr. 1967 (Stadel) -- 1 mouse was collected

Baker Island Report -- April 1967 (Tuxson) -- None collected

Jarvis Island Report -- March 1967 (Chandler) -- None collected

Palmyra Island Report -- March 1967 (Stadel) -- Mammals not mentioned in report

Fanning Island Report -- March 1967 (DeLong) -- Mammals not mentioned in report

Christmas Island Report -- March 1967 (Stadel) -- Several rats (identified in field as Polynesian) collected on Motu Upou for ectoparasite collection

Swains Island Report -- April 1967 (Chandler) -- 1 Polynesian Rat collected

Howland Island Report -- April 1967 (Stadel) -- Apparently none collected

SIC 17 - January-February 1967

Baker Island Report -- Feb. 1967 (Smith) -- None collected

Hull Island Report -- Jan-Feb. 1967 (Crossin) -- Apparently none collected

Phoenix Island Report -- Jan. 1967 (Chandler) -- Mammals not mentioned in report.

Howland Island Report -- Feb. 1967 (Tuxson) -- None collected

Baker Island Report -- Jan. 1967 (Chandler) -- None collected

Enderbury Island Report -- Jan. 1967 (Balcomb) -- None collected

Howland Island Report -- Jan. 1967 (Balcomb) -- No mammals mentioned in report.

SIC 16 - November-December 1966

Swains Island Report -- Nov. 1966 (Crossin and Balcomb) -- 5 Polynesian Rats collected

Enderbury Island Report -- Dec. 1966 (Crossin & Balcomb) -- None collected

Phoenix Island Report -- Dec. 1966 (Crossin) -- None collected

Baker Island Report -- Nov. 1966 (Chandler) -- None collected

Howland Island Report -- Nov. 1966 (Balcomb) -- None collected

Howland Island Report -- Dec. 1966 (Balcomb) -- 1 cat collected

SIC 15 - September-October 1966

Phoenix Island Report -- Oct. 1966 (Woodward) -- 5 rabbits collected

Baker Island Report -- Sept. 1966 (Woodward) -- Evidently none collected

Howland Island Report -- Oct. 1966 (Bulmer) -- Mammals not mentioned in report.

Howland Island Report -- Sept. 1966 (Bulmer) -- Mammals not mentioned in report.

Swains Island Report -- Oct. 1966 (Bulmer) -- Evidently none collected

Birnie Island Report -- Oct. 1966 (Woodward) -- 14 Polynesian Rats collected

Enderbury Island Report -- Sept.-Oct. 1966 (Bulmer & Woodward) - Mammals not mentioned

Hull Island Report -- Oct. 1966 (Bulmer) -- 13 Polynesian Rats collected

Baker Island Reports -- Oct. 1966 (Bulmer) -- Evidently none collected

Fitch-Mammal Report - SIC 15

Says following were collected : Birnie ---- 14 Polynesian Rats

Swains ---- 4 Polynesian Rats

Hull ----- 13 Polynesian Rats

Phoenix -- 5 Rabbits collected

SIC 14 -- July-August 1966

Gardner Island Report -- July 1966 (Clapp) - - None collected

McKean Island Report -- July 1966 (Clapp) -- None collected

Howland Island Report -- July 1966 (Clapp) -- None collected

Baker Island Report -- Aug. 1966 (Clapp) -- None collected

Baker Island Report -- July 1966 (Clapp) -- 2 House Mice collected

Howland Island Report -- Aug. 1966 (Clapp & Bulmer) -- Mammals not mentioned in report.

Jarvis Island Report -- Aug. 1966 (Clapp) -- 1 kitten and 2 cats collected & frozen,
a statistically useful series of mice collected
(As I remember-about 15-17 individuals (RBC))

Swains Island Report -- Aug. 1966 (Clapp & Bulmer) -- 2 Rattus sp. collected, both adult males

SIC 13 -Apr.-May 1966

Howland Island Report -- May 1966 (Harrington) -- None collected

McKean Island Report --Apr-May 1966 (Crossin) -- None collected

Palmyra Island Report -- May 1966 (Crossin) -- 1 Rattus rattus collected

Baker Island Report -- May 1966 (Heryford) -- None collected

SIC 12 --March 1966

Howland and Baker Islands visited - No specimens collected.

SIC 11 -- February-March 1966

Howland , Baker and Swains visited twice; Hull, Enderbury, & Christmas Visited

Thompson Report -- 4 House Mice collected on Baker and 12 Polynesian Rats collected.

SIC 10 -- November 1965

Howland and Baker visited - evidently no specimens collected

Numbers of Mammals Collected on Southern Island Trips as Indicated by Trip Reports

SIC 10-20
compiled by R. B. Clapp -- 28 July 1969

SIC 20 - October 1968

McKean Island Report -- No mammals occur

SIC 19 - June-July 1968

Sydney Island Report - July 1968 (Clapp) -- 1 cat collected

Howland Island Report - July 1968 (Clapp) -- no mammals collected

McKean Island Report - July 1968 (Clapp) -- no mammals occur

Enderbury Island Report -- July 1968 (Clapp) -- no mammals collected

Baker Island Report -- July 1968 (Hackman and Clapp) -- no mammals collected

Starbuck Island Report -- June 1968 (Clapp and Hackman) -- no mammals collected

Jarvis Island Report -- June 1968 (Clapp) -- no mammals collected

Malden Island Report -- June 1968 (Clapp) -- 4 mice collected and preserved in 70% alcohol

SIC 18 - March-April 1967

Starbuck Island Report -- April 1967 (Smith) -- 1 cat collected and frozen, 1 Polynesian rat collected with shotgun, and, although badly mauled, frozen for ectoparasite study.

Malden Island Report -- Mar.-Apr. 1967 (Stadel) -- 1 mouse was collected

Baker Island Report -- April 1967 (Tuxson) -- None collected

Jarvis Island Report -- March 1967 (Chandler) -- None collected

Palmyra Island Report -- March 1967 (Stadel) -- Mammals not mentioned in report

Fanning Island Report -- March 1967 (DeLong) -- Mammals not mentioned in report

Christmas Island Report -- March 1967 (Stadel) -- Several rats (identified in field as Polynesian) collected on Motu Upou for ectoparasite collection

Swains Island Report -- April 1967 (Chandler) -- 1 Polynesian Rat collected

Howland Island Report -- April 1967 (Stadel) -- Apparently none collected

SIC 17 - January-February 1967

Baker Island Report -- Feb. 1967 (Smith) -- None collected

Hull Island Report -- Jan-Feb. 1967 (Crossin) -- Apparently none collected

Phoenix Island Report -- Jan. 1967 (Chandler) -- Mammals not mentioned in report.

Howland Island Report -- Feb. 1967 (Tuxson) -- None collected

Baker Island Report -- Jan. 1967 (Chandler) -- None collected

Enderbury Island Report -- Jan. 1967 (Balcomb) -- None collected

Howland Island Report -- Jan. 1967 (Balcomb) -- No mammals mentioned in report.

SIC 16 - November-December 1966

Swains Island Report -- Nov. 1966 (Crossin and Balcomb) -- 5 Polynesian Rats collected

Enderbury Island Report -- Dec. 1966 (Crossin & Balcomb) -- None collected

Phoenix Island Report -- Dec. 1966 (Crossin) -- None collected

Baker Island Report -- Nov. 1966 (Chandler) -- None collected

Howland Island Report -- Nov. 1966 (Balcomb) -- None collected

Howland Island Report -- Dec. 1966 (Balcomb) -- 1 cat collected

SIC 15 - September-October 1966

Phoenix Island Report -- Oct. 1966 (Woodward) -- 5 rabbits collected

Baker Island Report -- Sept. 1966 (Woodward) -- Evidently none collected

Howland Island Report -- Oct. 1966 (Bulmer) -- Mammals not mentioned in report.

Howland Island Report -- Sept. 1966 (Bulmer) -- Mammals not mentioned in report.

Swains Island Report -- Oct. 1966 (Bulmer) -- Evidently none collected

Birnie Island Report -- Oct. 1966 (Woodward) -- 14 Polynesian Rats collected

Enderbury Island Report -- Sept.-Oct. 1966 (Bulmer & Woodward) - Mammals not mentioned

Hull Island Report -- Oct. 1966 (Bulmer) -- 13 Polynesian Rats collected

Baker Island Reports -- Oct. 1966 (Bulmer) -- Evidently none collected

Fitch-Mammal Report - SIC 15

Says following were collected : Birnie ---- 14 Polynesian Rats

Swains ---- 4 Polynesian Rats

Hull ----- 13 Polynesian Rats

Phoenix -- 5 Rabbits collected

SIC 14 -- July-August 1966

Gardner Island Report -- July 1966 (Clapp) - - None collected

McKean Island Report -- July 1966 (Clapp) -- None collected

Howland Island Report -- July 1966 (Clapp) -- None collected

Baker Island Report -- Aug. 1966 (Clapp) -- None collected

Baker Island Report -- July 1966 (Clapp) -- 2 House Mice collected

Howland Island Report -- Aug. 1966 (Clapp & Bulmer) -- Mammals not mentioned in report.

Jarvis Island Report -- Aug. 1966 (Clapp) -- 1 kitten and 2 cats collected & frozen,
a statistically useful series of mice collected
(As I remember-about 15-17 individuals (RBC))

Swains Island Report -- Aug. 1966 (Clapp & Bulmer) -- 2 Rattus sp. collected, both adult males

SIC 13 -Apr.-May 1966

Howland Island Report -- May 1966 (Harrington) -- None collected

McKean Island Report --Apr-May 1966 (Crossin) -- None collected

Palmyra Island Report -- May 1966 (Crossin) -- 1 Rattus rattus collected

Baker Island Report -- May 1966 (Heryford) -- None collected

SIC 12 --March 1966

Howland and Baker Islands visited - No specimens collected.

SIC 11 -- February-March 1966

Howland , Baker and Swains visited twice; Hull, Enderbury, & Christmas Visited

Thompson Report -- 4 House Mice collected on Baker and 12 Polynesian Rats collected.

SIC 10 -- November 1965

Howland and Baker visited - evidently no specimens collected

Fitch
SIC 15

A PRELIMINARY REPORT
ON TERRESTIAL MAMMALS
ON SIC 15

by
John H. Fitch

MAMMALS

A Preliminary Report
on Terrestrial Mammals
on SIC #15

Introduction:

The Pacific Ocean Biological Survey Program conducts periodic Southern Island surveys which include surveys of existing mammal populations. This paper constitutes a brief preliminary report on mammal observations and collections for SIC 15. Effort was made to collect a series of rodents and lagomorphs from the islands in addition to taking notes on density, habitat preference, reproduction, food habits and behavior. Table #1 summarizes the species observed and the number collected from each island.

SPECIES ACCOUNTS

Polynesian Rat
(Rattus exulans)

The Polynesian rat was observed and collected from three of seven islands visited on SIC 15; 14 specimens were collected from Birnie, 4 from Swains and 13 from Hull. According to previous reports, populations of R. exulans were lower on Birnie, the same on Swains, and higher on Hull than on previous trips.

Rats on Birnie, which is a dry island, were found in rock piles and under logs. The average density was one rat per 105 square feet of ground area. Rock piles were utilized as nesting areas; nests were usually composed of straw and dried pieces of Boerhavia. Rat nests were usually found several inches above the ground level in rock piles, possibly because hermit crabs

used the rock piles at ground level during the day. R. exulans were relatively rare on Swains Island, a wet island with lush vegetation. They were found in old buildings and sheds, under logs and in piles of discarded coconut husks. According to the villagers, dogs and cats on the island kill rats frequently, which may account for their low population in comparison to Swains where cats are rare. On Hull Atoll, a wet atoll that is not inhabited, rats were very common. They occurred in the deserted village as well as in undisturbed coconut forests. An average of one rat was seen for every twenty square feet of ground area. Only one cat was sighted on the island. In the vicinity of the village, rats occurred on roofs, walls, and floors of huts and utilized stone walls or rock piles, when available, as hiding or nesting places. A nest of straw and grass containing two embryos was located under a rock. In coconut forests, rats built nests and hid under piles of coconut fronds.

R. exulans were more active nocturnally than diurnally. On Swains, a maximum of 26 rats was counted in one hut at night as compared to a maximum of six during the day. On Birnie, only two rats were sighted in the open during the day; the rest were found in rock piles.

Rats eat a variety of foods. On Hull Atoll, rats were observed eating breadfruit, melons, seeds, coconut meat, and 1 Polynesian gecko (Gehyra oceanica). On Swains Island, rats also utilize fruit; on Birnie, rats rely on such succulent plants as Sesuvium.

Of 14 specimens of R. exulans collected from Birnie, six males

had distended testes and six females were pregnant. On Hull, none of the specimens collected were in reproductive condition.

Territorial behavior was exhibited by R. exulans on several occasions on Hull. In the coconut forest, individual rats maintained a certain territorial space; intruders were either chased away by loud squeaks or by charges on the part of the defender. Territorial space was evidently not maintained in areas where food was present. Six rats fed together on a melon that had been cut open and left on a trail.

Most of the specimens were collected by hand or with a .22 pistol. Museum Special snap traps were usually ineffective because they were sprung by hermit crabs.

House Mouse
(Mus musculus)

Mus musculus were observed on only one island on SIC 15. Four house mice were sighted but not collected on Baker Island. According to past records, the population of Mus musculus has been substantially, perhaps by cats, reduced in the last three to four months. At least three cats were seen on the island.

All four M. musculus were observed in a Tribulus-Boerhavia association. Fifteen Museum Special snap traps were set out at night on piles of lumber and on barrels out of the reach of hermit crabs but no mice were caught.

European Hare
(Oryctotagus cuniculus)

Oryctotagus cuniculus were observed and collected from Phoenix Island where they occur very commonly. An estimated 450 were flushed out of nests by POBSP personnel during a bird survey of the island.

Foot, ear, and total length measurements were taken on ten individuals (see Table #2). Coat color, usually of a bi-color pattern, included combinations of brown-white, black-white, gray-white, light tan and mottled tan-white.

Rabbits were mainly crepuscular and nocturnal in their daily cycles. Usually rabbits remained in burrows during the day and came out an hour or so before sunset.

Burrows ranged from shallow depressions under Sida or Lepturus cover to deserted Wedge-tailed Shearwater burrows, evidently enlarged by rabbits. Three burrows were dug up, measured and mapped out (see Table #3). Nests were usually found in the deepest part of the burrow and were loosely constructed of Lepturus straws.

None of the females were lactating or pregnant (refer to Table #2). Most of the immatures appeared to be three to four weeks old.

House Cat
(Felis domesticus)

Feral cats were observed on four of seven islands visited on SIC 15. Two adults and two kittens were observed on Howland Island. They

were sighted frequently at night in the vicinity of the sea plane wreckage. On one occasion, in October, the female and two kittens were sighted on the edge of the Sooty Tern colony with a freshly killed adult Sooty Tern. On Baker, two adults were observed at night near the northern part of the island. Several adult Frigatebird skeletons with tooth marks on the skulls were found in rusted out barrels near the center of the island. One cat was flushed out of a deserted hut on Hull, and on Swains, at least eight cats lived in the village with the islanders. According to informants, cats on Swains eat rats and small shore birds.

Conclusion:

In conclusion, the majority of islands in the Central South Pacific area support populations of at least one introduced species of mammal. Because of the lack of natural population controls, populations frequently have no real equilibrium. Predation, for example, may not be adequate to control populations. On Hull Island, cats were not common enough to control the Polynesian rat population. More observations need to be made especially on population fluctuations and food habits.

TABLE #1. Summary of Mammal Collections and Observations.

| ISLAND | SPECIES | | | | | | |
|-----------|--|-------------------------------|---------------------------------|-----------------------------------|-----------------------------------|-------------------|----------|
| | <u>Oryctotagus</u> <u>cuniculus</u> | <u>Mus</u> <u>musculus</u> | <u>Rattus</u> <u>exulans</u> | <u>Felis</u> <u>domesticus</u> | <u>Canis</u> <u>familiaris</u> | Pig | Horse |
| Howland | - | - | - | observed | - | - | - |
| Baker | - | observed | - | observed | - | - | - |
| Enderbury | - | - | - | - | - | - | - |
| Phoenix | 5 | - | - | - | - | - | - |
| Birnie | - | - | 14 | - | - | - | - |
| Swains | - | - | 4 | observed | observed signs | observed signs | observed |
| Hull | - | - | 13 | observed | observed | observed | - |

TABLE # 2. Rabbit Measurements and Reproductive Status.

| SEX | REPRODUCTIVE STATUS | HIND FOOT LENGTH | EAR LENGTH | TOTAL LENGTH |
|--------|------------------------|---------------------|------------|-----------------|
| Female | adult-non-lactating | 90 | 76 | 440 |
| Male | adult-testie-4X11 | 92 | 88 | 402 |
| Male | adult-testie-10 X 29 | 85 | 89 | 410 |
| Male | adult | 82 | 67 | 387 |
| Female | adult-non-lactating | 88 | 82 | 455 |
| Male | immature | 65 | 45 | 250 |
| Female | immature | 71 | 68 | 264 |
| Female | immature | 56 | 49 | 220 |
| Male | immature | 60 | 51 | 246 |
| Male | immature | 60 | 32 | 190 |

TABLE # 3. Burrow Descriptions.

| Main Entrance | Total Length | Greatest Depth | No. of Entrances |
|---------------|--------------|----------------|------------------|
| 90 X 20 | 810 | 230 | 1 |
| 81 X 220 mm. | 480 | 270 | 3 |
| 100 X 180 mm. | 240mm. | 250 | 2 |

Table IV. Berlese Sample Collections for SIC 14, July-August 1966.

| <u>Species</u> | <u>Baker</u> | <u>Gardner</u> | <u>Howland</u> | <u>Jarvis</u> | <u>McKean</u> | <u>Total</u> |
|-----------------------|--------------|----------------|----------------|---------------|---------------|--------------|
| Audubon's Shearwater | 0 | 0 | 0 | 0 | 2 | 2 |
| Red-tailed Tropicbird | 0 | 0 | 0 | 5 | 4 | 9 |
| Blue-faced Booby | 2 | 0 | 8 | 0 | 2 | 12 |
| Brown Booby | 0 | 0 | 6 | 3 | 0 | 9 |
| Red-footed Booby | 0 | 0 | 5 | 5 | 0 | 10 |
| Great Frigatebird | 0 | 0 | 10 | 0 | 0 | 10 |
| Lesser Frigatebird | 0 | 0 | 10 | 0 | 0 | 10 |
| Sooty Tern | 0 | 0 | 20 | 0 | 0 | 20 |
| Blue-gray Noddy | 0 | 0 | 0 | 0 | 2 | 2 |
| Common Noddy | 5 | 0 | 0 | 0 | 0 | 5 |
| Hawaiin Noddy | 0 | 0 | 0 | 0 | 04 | 4 |
| <u>Mus muscus</u> | 2 | 0 | 0 | 0 | 0 | 2 |
| <u>Rattus exulans</u> | <u>0</u> | <u>1</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>1</u> |
| TOTALS | 9 | 1 | 59 | 13 | 14 | 96 |

Other mammal - (specimens?)

- SIC-6 - Baker - 9 mus - (See Merrill catalogue
2 cat skull - (" " ")
- SIC-6 - Howland - 1 cat skull - (" " ")
- SIC-6 - Gardner - 2 dog skulls (" " ")
1 pig skull (" " ")
2 cat skulls (" " ")
- SIC-6 - Sydney - 2 rats (exulans?) - (" " ")
- SIC-6 - Jarvis - 2 cat skulls (" " ")
2 Mus - (" " ")
- SIC-6 - Palmyra = 1 rat - (" " ")
- SIC-7 - Hull - cat skull (See Kirkpatrick ~~sp. acc.~~ ~~sp. index~~)
- SIC-7 - Baker - 3 spec^{Mus} (See " ")
- SIC-7 - Birnie - 19 mus (" ")
(for above see also RDK)
- SIC-7 - Hull - dog skull? (RDK cat.)
- SIC-8 - Hull - rat (DHS cat)
- SIC-8 - Canton - 8 rats "
- SIC-8 - Tutuila - 1 rat "
- SIC-8 - Phoenix - 1 rabbit "
- SIC-8 - Vostok - 12 rats "
- SIC-8 - Caroline - 3 rats "
- SIC-9 - Fuller mlu roqu.

Other Mammal (Specimens)

SIC 5 - Palmyra : 2 rats (See Huber cat.)
SIC 5 - M.U. Xmas : 1 rat (")
SIC 5 - Malden : 6 mice (")

(more cats to check of SIC 5)

SIC 4 - Birnie 1 rat (Huber cat)
Phoenix 3 rabbit (" ")

Lundberg - Ashton, MA.

1941

- | | | | |
|-------|--------------------|---------------------------------|-------------|
| 450 - | Belopol'skii, L.O. | Ecology of sea birds Baer's sea | \$5.00 |
| 510 - | Hutson, H.P.W. | The ornithologist's guide | \$3.00 |
| 561 - | Strong's | Bibliography | 4 vol 27.50 |
| 584 - | Asdell, S.H. | Patterns of mammalian reprod. | 4.50 |
| 680 - | Cope | 1855-1892 | |
| 713 - | Herpetologica | Index to volumes 1-11 | \$4.00 |
| | 1936-1955 | | |
| 748a | Smith | Handbook of lizards | 10.00 |

Pacific Project

Under separate cover I am sending you 304 dry, uncleaned Mus skulls. Included are U.S.N.M. Field Nos. 25058-25078; 25082-25084; 25086-25089; 25091-25100; 25205; 25429; 25438; 25467-25468; 25474-25475; 25486; 25502; 25510; 25535; 25537; 25539; 25542; 25544-25545; 25547-25548; 25554; 25559; 25564-25565; 25567; 25572; 25574; 25576; 25578-25579; 25581-25582; 25584; 25593-25594; 25596; 25598-25601; 25603; 25605-25606; 25609-25614; 25616; 25618-25620; 25624; 25627-25635; 25639-25640; 25642-25643; 25647-25652; 25654-25656; 25658-25659; 25662-25663; 25665; 25669-25674; 25676-25680; 25682; 25684; 25686-25687; 25691-25694; 25696; 25698-25699; 25701-25703; 25707-25708; 25711-25713; 25717; 25719; 25722-25723; 25726-25736; 25738; 25741; 25743; 25745-25746; 25754; 25768-25770; 25774-25782; 25787; 25789-25794; 25800-25813; 25815-25824; 25826-25827; 25829-25840; 25842-25859; 25878; 25885; 25913-25914; 25919; 25921; 26013-26030; 26032-26046; 26048-26051; 26053-26065. Please have them cleaned, then return them to me for examination.

John Miles

November 7, 1966

The enclosed Mus Skulls were removed from case 142 on The West Range of The Division of Mammals on October 11, 1966.

They were uncleaned and uncatalogued, but encased in vials with Their field number.

On November 7, They were forwarded To Dr. Ralph Kirkpatrick at The University of Indiana.

They are from Sand Is., Johnston AToll only.
Jan Reese

Forwarded To R.D.K. - Taken from Mammal Division
Field numbers of mus skulls (uncatalogued)

| 25153 | 25179 | 25200 | 25236 |
|-------|-------|-------|-------|
| 55 | 80 | 01 | 37 |
| 56 | 81 | 02 | 39 |
| 57 | 82 | 03 | 40 |
| 58 | 83 | 05 | 41 |
| 59 | 84 | 06 | 42 |
| 60 | 85 | 07 | 43 |
| 61 | 86 | 10 | 44 |
| 62 | 87 | 12 | 45 |
| 63 | 88 | 13 | 46 |
| 64 | 89 | 14 | 47 |
| 66 | 90 | 15 | 49 |
| 67 | 91 | 16 | 63 |
| 68 | 92 | 17 | 65 |
| 69 | 93 | 18 | 69 |
| 70 | 94 | 19 | 71 |
| 71 | 95 | 20 | 72 |
| 72 | 96 | 21 | 99 |
| 73 | 97 | 25 | |
| 74 | 98 | 27 | |
| 75 | 99 | 28 | |
| 76 | | 29 | |
| 77 | | 31 | |
| 78 | | 34 | |

25303

25370

05

71

06

73

08

74

09

75

12

76

14

77

16

78

18

79

21

80

50

81

51

82

52

83

53

84

54

85

56

88

57

90

58

91

59

60

63

65

66

68

69

The following are uncleaned, uncatalogued specimens
of Mus species from Sand Is. Johnston Atoll, Rep. R.D.K. June 66'

| 25427 | 25491 | 25546 | 25608 |
|-------|-------|-------|-------|
| 65 | 92 | 48 | 15 |
| 66 | 93 | 49 | 17 |
| 69 | 94 | 51 | 21 |
| 70 | 95 | 52 | 23 |
| 71 | 96 | 53 | 25 |
| 72 | 97 | 55 | 26 |
| 73 | 98 | 57 | 31 |
| 75 | 99 | 60 | 36 |
| 76 | 25500 | 61 | 37 |
| 77 | 01 | 62 | 38 |
| 78 | 03 | 63 | 41 |
| 79 | 04 | 66 | 53 |
| 80 | 06 | 70 | 57 |
| 81 | 08 | 71 | 61 |
| 82 | 09 | 73 | 64 |
| 83 | 11 | 77 | 66 |
| 84 | 12 | 80 | 67 |
| 85 | 13 | 83 | 68 |
| 87 | 14 | 95 | 75 |
| 88 | 38 | 25602 | 81 |
| 89 | 40 | 04 | 83 |
| 90 | 41 | 07 | 85 |

25688

89

90

95

97

25700

04

05

06

09

10

14

15

16

18

20

21

24

39

40

42

44

47

25748

49

50

51

52

53

56

57

58

59

60

61

62

63

66

67

68

69

71

72

83

84

85

86

25859

72

73

74

75

76

77

79

80

81

82

83

84

86

87

88

89

90

91

92

93

94

95

25896

97

98

99

25900

01

02

03

04

05

06

07

08

09

10

11

12

15

16

17

18

22

36

25941

45

46

47

48

49

50

51

52

53

54

55

56

57

58

59

60

61

62

63

64

65

66

25967

68

69

70

71

72

73

74

76

77

78

79

80

81

82

83

84

85

86

87

88

89

90

25991

92

93

94

95

96

97

Rattus exulans

| | | | | | |
|-------|----|-------------|---------------------------|-------------------|--------------|
| 63774 | | 10 Oct '22 | Marquesas Is. Nukahiva | ale. | Goole |
| 63776 | | 13 Sept | " " | ale. skull sep | " |
| 63777 | | 13 Sept | " " | " | " |
| 60785 | ♂ | 12 Jan, '20 | Society Is., Scilly Atoll | " | Beel |
| 68740 | | 28 Mar, '24 | Phoenix Is., Hull Is. | " | " |
| 41 | | 14 " " | " " Canton | | |
| 42 | | 12 Dec " | Samoa, Ror Is. | | |
| 68744 | | 1 Dec '23 | Tau Is., Manua Is. | | |
| 68747 | ♀ | 1 Dec | Samoa, Ror Is. | | |
| 48 | ♀ | 7 Jan, '24 | Ofa, Manua Is. | | |
| 69264 | | 28 Aug | Fiji Isl. | ulehol. | |
| 77943 | dm | 1925 | ? | ale hol. | Be - Corvein |
| 44 | " | 17 July '25 | Tonga, Kele Is. Is. Is. | | |
| 45 | " | " " | " " " | | |
| 46 | " | 18 " " | " " " | | |
| 47 | " | 20 " " | " " " | | |

Rattus alexandrius

| | | | | | |
|-------|---|------------|-----------------------|------------|--------|
| 63775 | | 13 Sept. | Marquesas Isls. | skull seg. | Paale |
| 60784 | ♀ | 12 Jan '20 | Society Isls. Bow Bow | " | 13 eek |
| 68745 | ♀ | 30 Nov | Samoa, Tatuila Is. | | |
| 68746 | ♀ | " | " " " | | |
| 69577 | | 11 Nov '21 | Fiji Is. | | |

Mus

| | | | | | |
|-------|---|-------------|---------------------|-------|------|
| 60614 | ♂ | 28 Jan, '21 | Society Is., Moorea | skin | Beal |
| 60615 | ♂ | 15 June | " " " | " | " |
| 60616 | ♀ | 25 May | " " , Tahiti | " | " |
| 60617 | ? | 9 July '21 | " " Moorea | skull | " |

Pteropus samoensis

| | | | | | | | |
|-------|---|---------|----------------|--------|---------------------|----------------------|------|
| 68722 | ♀ | 25 Apr. | So. Sea. Isl., | Samoa, | Upolu I. | Skin | Beck |
| 68726 | ♂ | Feb. | " " | " | Tutuilla | Skull & legs alc. | " |
| 27 | ♂ | " 4 | " " | " | " | Skin | " |
| 28 | ♂ | " | " " | " | " | " | " |
| 29 | ♂ | " | " " | " | " | " | " |
| 30 | ♀ | " 12 | " " | " | " | " | " |
| 31 | ♀ | 24 Jan | " " | " | Upolu I. | " | " |
| 32 | ♂ | — | " " | " | " | " | " |
| 33 | ♀ | — | " " | " | " | " | " |
| 34 | ♀ | — | " " | " | " | " | " |
| 35 | ♀ | — | " " | " | " | " | " |
| 69262 | | 17 May | | " | | alcohol | " |
| 63 | | " | | " ? | | " | " |

Newfoundland Dog

60786

Skull

Emballonura semicaudata

| | | | | | |
|-------|---|-------------|--------------------------------|---------|--------|
| 68723 | ? | 20 May | So. Sea Isl., Samoa, Saraii I. | skin | 13 egg |
| 24 | ♀ | " | " " " | " | " |
| 25 | ♀ | " | " " " | " | " |
| 68827 | | 26 Dec, '23 | " " " " Tau I., Manua | alcohol | " |
| 28 | | " | " " " | " | " |
| 29 | | " | " " " | " | " |
| 30 | | " | " " " | " | " |
| 31 | | " | " " " | " | " |
| 32 | | " | " " " | " | " |
| 33 | | " | " " " | " | " |
| 34 | | " | " " " | " | " |
| 35 | | " | " " " | " | " |
| 69217 | ♂ | 3 Sept, '24 | " Fiji Isl. Lakemba I | skin | " |
| 18 | ♀ | " | " " " | " | " |
| 19 | - | " | " " " | " | " |
| 20 | - | " | " " " | " | " |
| 21 | | " | " " " | " | " |
| 69574 | ♀ | - | " " Yasawa Isl | ole | " |
| 75 | ♀ | - | " " Yasawa Isl. | ole | " |
| 76 | ♂ | - | " " " | ole | " |

Pteropus tonganus

| | | | | | |
|-------|--------|--------------|--|-----------|---------|
| 68736 | ♂ | 21 Jan | So. Sea. Isl., Olosenga (Samoa), Manua I | skin | Beet |
| 37 | ♂ | . 2 | " " " " | " | " |
| 38 | ♂ | — | " " " Samoa | " | " |
| 39 | ♀ | — | " " " " | " | " |
| 68749 | | 7 Jan, '924 | " " " Ofu, Manua I. | | |
| 69212 | ♀ | 29 Sept, '24 | Fiji Is Kuvu Gomo | skel | " |
| 13 | ♀ | 27 " | " " Soru | " | " |
| 14 | ♀ | " | " " " | " | " |
| 15 | Juv. ♀ | " | " " " | " | " |
| 16 | " ♂ | " | " " " | " | " |
| 69562 | ♂ | 27 Feb, '25 | Manua I , Manua I | | |
| 63 | ♀ | 16 " | " " Naitai I | | |
| 64 | ♀ | 1 " | " " " | | |
| 65 | ♀ | 5 Jan | " " Yasawa I | | |
| 69571 | ♀ | 5 Jan, '25 | " " " " | | Correia |
| 72 | ♀ | " | " " " " | destroyed | " |
| 73 | ♀ | " | " " " " | " | " |

Rattus exulans

68740

28 March, 1924

Hull Isl.

coll. R. H. Beal

Skin & Trunk in 41% alc

68741

14 March, 1924

Carlon

coll. R. H. Beal

" " " " "

Pteropus *nauaeensis*

| | | | | |
|-------|---|---------|-----------|-----------|
| 69566 | ♂ | 160a'2v | Fiji Isl, | TAKU vi I |
| | ♀ | " | " " | " " |
| | ♂ | " | " " | " " |
| | ♀ | 28oct | " " | Yakude |
| Jaw. | | — | " " | |

Rattus norvegicus

Samoa, Tutuila Is.

skin Beck
"

77942 ♂ 8 May '25

Folua Is. = Fotua

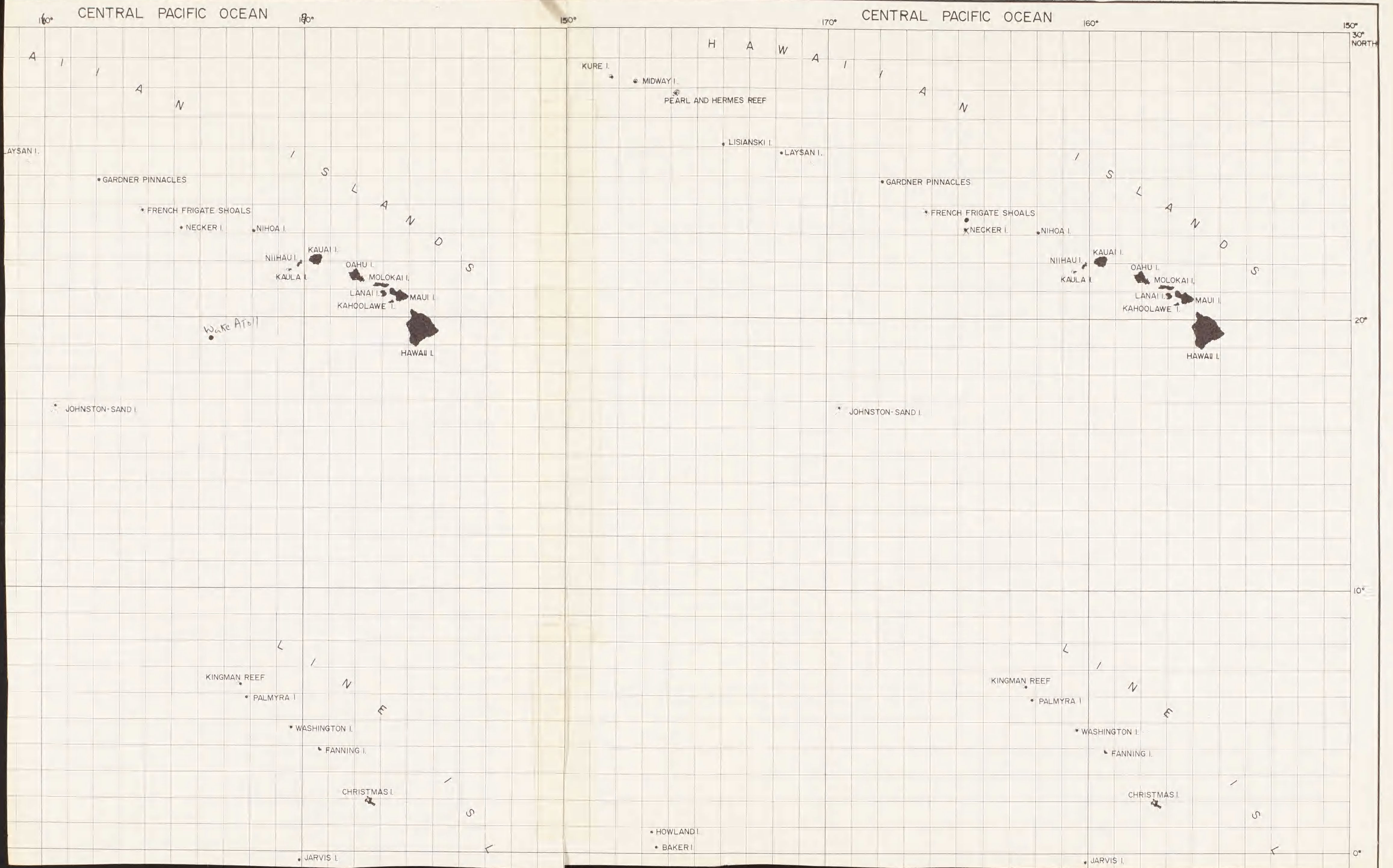
alc see-Correia

Herpestes

69578

21 Jan, '25

Fiji Isl.





THE UNIVERSITY OF NEW MEXICO | ALBUQUERQUE

DEPARTMENT OF BIOLOGY

Nov. 1, 1966

Dr. David Johnson
Mammal Division
U.S. National Museum
Washington 25, D.C.

Dear Dr. Johnson:

In December of 1964 Dr. James S. Findley, my major professor, and I visited your museum to examine Pipistrellus hesperus specimens. We are unable to locate several tag localities for specimens in your collection. It would be greatly appreciated if you would supply us with more information for the localities listed below. For your convenience, please use this sheet and return it to me at your earliest convenience in the enclosed addressed and stamped envelope. Thank you.

Sincerely,

Gerald L. Traut

Gerald L. Traut

CALIFORNIA, San Diego County, Whitewater

San Diego County, Jacumba Bay

? County, Posa Creek